

## REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

By the above amendments, the specification and abstract have been amended in accordance with the Patent Office's suggestions. Claims 23-25 have been canceled without prejudice or disclaimer. The subject matter of canceled claim 23 has been incorporated into claim 22. Claim 22 has also been amended by deleting the parentheses around the phrase "limits included". Claims 22 and 26-36 have been amended for readability and/or clarification purposes. Claim 26 has been amended by deleting the term "preferably". Claims 26, 27, 29-32, 35 and 36 have been amended in a manner consistent with the above amendment to claim 22 and cancellation of claim 23. New dependent claim 43 has been added which is directed to subject matter deleted from claim 26.

The specification and abstract have been objected to for the reasons set forth at pages 2-3 of the Official Action. Such objections are moot in view of the above amendments to the specification and abstract. Accordingly, withdrawal of the objections is respectfully requested.

Claims 22-24 and 26 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection is moot in view of the above amendments, in which claim 22 has been amended by deleting the parentheses around the phrase "limits included", claims 23 and 24 have been canceled, and claim 26 has been amended by deleting the term "preferably". Accordingly, for at least this

reason, withdrawal of the §112, second paragraph, rejection is respectfully requested.

Claims 22, 23, 26, 27 and 29-42 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 3,893,981 (*Thoma et al*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Independent claim 22 recites abrasion-resistant yarns, fibres and/or filaments obtained from a composition comprising a polymer matrix, the polymer matrix comprising a polyamide comprising: 30 to 100 mol %, limits included, of macromolecular chains corresponding to the formula (I), 0 to 70 mol %, limits included, of macromolecular chains corresponding to the formula (II).

*Thoma et al* does not disclose or suggest each feature recited in independent claim 22. For example, *Thoma et al* does not disclose or suggest a polyamide comprising macromolecular chains corresponding to the formula (I),  $R_3-(X-R_2-Y)_n-X-A-R_1-A-X-(Y-R_2-X)_m-R_3$ , as recited in claim 22. In this regard, the Patent Office has conceded that *Thoma et al* does not explicitly disclose the recited macromolecular chain corresponding to the formula (I). Relying on *Thoma et al*'s disclosures of the structural units at col. 4, lines 32-60, and the use of lactams, the Patent Office has taken the position that employing such materials would have inherently resulted in the claimed polymer matrix. See Official Action at page 5. However, Applicants respectfully but strenuously submit that such disclosures of *Thoma et al* are not sufficient to establish the alleged inherency with the requisite certainty.

The Patent Office's burden of proof for properly alleging an inherent disclosure is well established. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing

described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities.

The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (emphasis added). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent feature necessarily flows from the teachings of the applied prior art." *Ex Parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

In the present case, the Patent Office has relied on *Thoma et al* for disclosing the structural units at col. 4, lines 32-60, and the use of lactams. However, it is unclear how the usage of such structural units and lactams would have necessarily resulted in the formation of the claimed polymer matrix comprising a polyamide comprising macromolecular chains corresponding to the formula (I),  $R_3-(X-R_2-Y)_n-X-A-R_1-A-X-(Y-R_2-X)_m-R_3$ , as is presently claimed. Put differently, the Patent Office has not established **with the requisite certainty** that employing the *Thoma et al* materials would have necessarily resulted in the claimed macromolecular chain structure.

For at least the above reasons, it is apparent that independent claim 22 is non-obvious over *Thoma et al*. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Claims 22, 23 and 26-42 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,160,080 (*Cucinella et al*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

*Cucinella et al* does not disclose or suggest each feature recited in independent claim 22. For example, *Cucinella et al* does not disclose or suggest a polyamide comprising macromolecular chains corresponding to the formula (I),  $R_3-(X-R_2-Y)_n-X-A-R_1-A-X-(Y-R_2-X)_m-R_3$ , as recited in claim 22. The formula (I) compound of *Cucinella et al*, in which  $m$  is an integer between 3 and 8, does not correspond to the claimed macromolecular chains corresponding to the formula (I). See col. 1, line 61 and col. 2, line 46. Furthermore, *Cucinella et al* teaches the combined use of a star polyamide of formula (I), and a linear polyamide chain of formula (II). See col. 3, lines 21-31. *Cucinella et al* teaches the importance of employing both the star polyamide and the linear polyamide chain in its composition. As such, it would not have been obvious to modify the star polyamide disclosed by *Cucinella et al* to arrive at the claimed macromolecular chain of formula (I).

Furthermore, Applicants note that by employing a polyamide comprising a macromolecular chains corresponding to the formula (I), for example, improved abrasion resistance properties can be attained in comparison with comparative star polyamides having structures similar to the structure taught by *Cucinella et al*. In this regard, the Examiner's attention is directed to the examples, in which comparative examples B1, B2 and B3 employing star polyamides exhibited inferior abrasion resistance properties in comparison with inventive examples employing a polyamide comprising macromolecular chains corresponding to the formula (I). See Table 1.

For at least the above reasons, it is apparent that independent claim 22 is non-obvious over *Cucinella et al*. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

The dependent claims are allowable at least by virtue of their direct or indirect dependence from independent claim 22. Thus, a detailed discussion of the additional distinguishing features recited in the dependent claims is not set forth at this time.

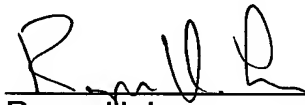
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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Date: May 12, 2010

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